

Stanford Applied Engineering

										Adv	anced i	ackagii	ig Divis	1011		
TITLE			SANTA STATE OF STATE					ndahasarten (STCS SH	and the second second		and the second second second second	NUME	BER			and the second
				D	PRO(CEDURE	FICATE AND	REPOR					TD	-1007		
				70			P/C C		CTORS			PROJ	ECT			
													"7	000 S	ERIES	ii ·
APPLIC	CABLE	DOCU	MENT:	S	enga di manunini anak	REV.	DAT	E	REV.	DAT	ΓE			T. NO.		
						A	9/6/	74	SATISFIES CALCULATION			13	315	14		
N	III-C-	-2109′	/ C			В	9/9/	74				TOTA	L PA	GES		
					,	W. C.										
	CLASSIC COLOR COLOR CONTROL COLOR	eganus Rentas Profit (Methor		TABL	E O	F CC	NTE	RTS	AND	REV	ISION	STA	ATUS			
PAGE	covEB	i	ii	iii	la	lb	2a	2b	Fig.							
REV.	В	А	А	В	B	B	A	A	A							
PAGE									T							
REV.																
		<u> </u>			<u> </u>			<u></u>		<u> </u>	 T	<u> </u>				
PAGE																
REV.																
			1	NITI	AL	API	PRO	VAL	S		en de degre per en			1		
PREPA		20	AND THE PROPERTY OF	AND SECURISH STORY	DA	TE	A TANDAMAN CHICAGO	A	PPROVE	1 1	10.	A C -		DATE		
		Andre				9/5/	/74		R.	Thal)) lmaye	1			9/6/7	74
CHEC	KED	0.0	1	and the second second	DA	TE		Ai	PPROVE	D o	ans.			DATE		
). <i>Q</i> . b. Blo		ck			9/6/	74	Property or statement		. Evar					9/6/7	4

TABLE OF CONTENTS

TEST SEQUENCE			•		•	•	· ii
SPECIMEN PREPARATION & EXAMINATION OF	PRODU	CT					. iii
INSULATION RESISTANCE							la & lb
CONTACT RESISTANCE							2a & 2b

NUMBER

TD-1007

REV. PAGE

Α

i

TEST SEQUENCE

Test No:

Test Description

Specimen Preparation and Examination of

Products

Insulation Resistance #1

Contact Resistance #2 Contact to P/C Board

Stanford Applied Engineering, Inc.

NUMBER

TD-1007

REV. A

ii

PAGE

SAE FORM 747232

SPECIMEN PREPARATION

- 1. Load 7000-100 Series Connector Insulator with H7000-750 contacts using standard manufacturing and assembly methods, fixtures and tools.
- 2. Fabricate and identify test specimens as follows:
 - a) Specimen No. DAP #1

 Assemble Diallyl Phthalate Insulator with.000050 gold plated contacts.
 - b) Specimen No. Phenolic #1

 Assemble Phenolic Insulator with .000050 gold plated contacts.
 - c) Specimen No. Valox #1

 Assemble Valox (Thermoplastic Polyester) Insulator with .000050

 gold plated contacts.
 - d) Specimen No. Gold #1 Assemble Insulator with .000050 gold plated contacts.
 - e) Specimen No. 90/10 #1

 Assemble Insulator with 90/10 tin/lead contacts.
 - f) Specimen No. 60/40 #1
 Assemble Insulator with 60/40 tin/lead contacts.
- 3. Submit all specimens to Final Inspection for conventional "per print" inspection.

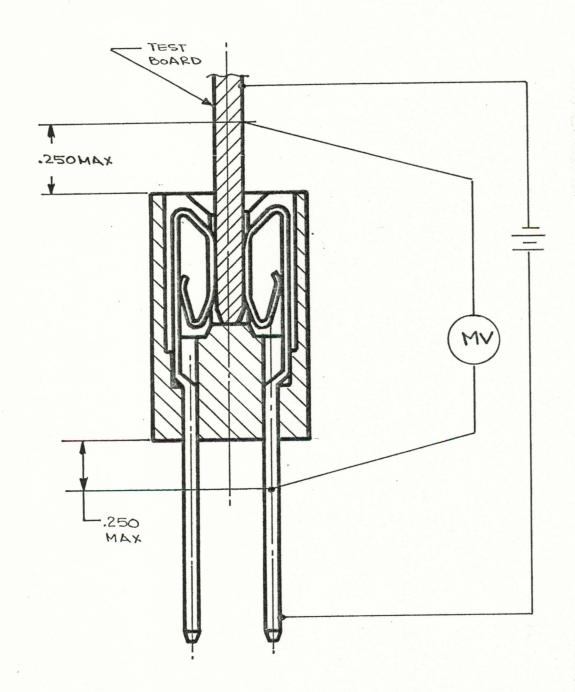


FIG 1

Stanford Applied Engineering, Inc.

NUMBER

TD-1007

REV. PAGE

A -

TEST 31. -- INSULATION RESISTANCE

Test Procedure:

The insulation resistance between ten (10) individual pairs of adjacent contacts shall be measured at a potential of 100 volts DC Min. applied for a period of 60 seconds. This test shall be repeated until all contacts are checked.

Test Results:

The insulation resistance between individual pairs of adjacent contacts shall be greater than the specified minimum of 5000 megohms. (See next page(s) for actual test results.)

Test Specimen Number:

Dap #1 Phenolic #1 & Valox #1

Test Equipment:

Megohmeter, Industrial Instruments

Model L-17 Ogden Lab Control #1001 Calibration Due Date 1/17/75

B

PAGE

TEST #1. -- ACTUAL TEST DATA (megohms)

Contact Positions		Test Specimen	
	DAP#1	PHENOLIC #1	VALOX #1
Pins #2-4	390K	>500K	480K
6–8	280K	>500K	450K
10–12	490K	>500K	>500K
14–16	485K	400K	420K
18–20	380K	300K	480K
22-24	390K	500K	>500K
26–28	400K	400K	>500K
30–32	300K	500K	420K
34–36	>500K	400K	480K
38-40	>500K	300K	>500K

TEST #2. -- CONTACT RESISTANCE - CONTACT TO PC BOARD

Test Procedure:

Each sample shall be mated with an appropriately dimensioned printed circuit board conforming to Figure 1 of MIL-C-21097. A steady-state current of 1.0 ampere DC shall be passed through ten (10) individual contacts in each sample. The voltage drop across the mated contacts shall be measured and recorded with the voltmeter probes positioned on the pad of the printed circuit board, immediately adjacent to the insulator, and on the contact tail.

Test Results:

All measured values of contact resistance shall be less than the specified maximum average of 7 milliohms. (See next page(s) for actual test results.)

Test Specimen Number:

Gold #1, 90/10 #1 & 60/40 #1

Test Equipment:

- D.C. Power Supply, Kepco Model CK18-3M Serial No. H38741 Ogden Laboratories Control No. 330 Calibration Due Date 5-9-74
- D.C. Volt-Ammeter, Hewlett-Packard Type 4304B Calibrated 8-12-74
- 0-3 D.C. Ammeter, Simpson Ogden Laboratories Control No. 202 Calibration Due Date 1-14-74

Ohmite 10 OHM Load Resistor



NUMBER

REV. PAGE
A 2a

TD-1007

TEST #2. -- ACTUAL TEST DATA (Milliohms)

Contact Number		Test Specimen	
	Gold #1_	9/10 #1	60/40 #1
1	6.3	5.0	4,2
2	6.6	5.2	5.2
3	6.4	5.6	6.4
4	6.5	5.6	6.7
5	6.2	6.0	6.7
6	6.4	4.4	6.4
7	6.7	5.2	6.3
8	6.4	5.6	6.0
9	6.3	6.7	5.0
10	6.3	6.4	4.0



Stanford Applied Engineering

COLUMN TO THE PARTY OF THE PART	و عاد شدهاد در	****	QUILTI-BLUB						Adva	anced P.	ickagin	g Divisi	on		
TITLE	- 24F 7864 2 30A	week-transmi	.ALCHURPTOLISHA	CONTRACTOR	Partner Et James Ja	a comment and	ACTUAL OF THE SAME	agramagenapeka-ak-asaszy-pelek ü	NETHER SERVICE	autores 12 miles.	NUME	ER	ALP PARTY	WHITE SHOWER.	
COM	TACT	DURAB TES	ILITY T REP		TING	WEAR)					PROJE	CT	-1017		
											P	8100 /C CO	NNECT		
APPLICABLE	DOCU	MENTS	anus anus anus an		REV.	DATE		REV.	DAT	E		IDEN.			
					N/C	6/2	7/75					315			
											TOTA	L PAG	28		
												6			
		•	TABL	E 0	F CO	NTEN	173	AND	REVI	SION	STA	TUS			
PAGE COVE	1	2	3	4	5	6									
REV. 1/c	11/2	11/4	11/2	1/2	1/2	1/2									
PAGE															
REV.															
PAGE															
REV.															
	1	· · · · · · · · · · · · · · · · · · ·		I											
					5										
		1	NITI	AL	APF	PRO	VAL	S							
PREFIRED	1/4	alle	1.1	DA	TE /27	175	A	FPROVE	D				DATE		
CHECKED				DA	TE	[])	A	PROVE	D				DATE		

1. SCOPE

THE PURPOSE OF THE HEREIN DESCRIBED DURABILITY TEST IS TO DETERMINE
THE AMOUNT OF PLATING WEAR ON P/C CONNECTOR CONTACTS RESULTING FROM
REPEATED P/C BOARD INSERTIONS AND WITHDRAWALS.

2. TEST PROCEDURE

- A) SUBJECT TEST SPECIMEN TO TWENTY-FIVE (25) CYCLES OF ENGAGEMENT AND WITHDRAWAL USING .062 THICK P/C BOARDS.
- B) REMOVE TWO (2) CONTACTS (ONE OPPOSING PAIR) CHECK AND RECORD THICKNESS OF GOLD PLATING.
- C) REPEAT STEP A & B FOR A TOTAL OF 500 CYCLES PER SPECIMEN AND P/C BOARD

3. TEST SPECIMEN

SPECIMEN #1 & #2

P/C CONNECTOR WITH SEMI-BELLOWS CONTACTS. CONNECTOR SIZE; 50 POSITION/
100 CONTACTS. CONTACT PLATING; GOLD PLATED PER MIL-G-45204, TYPE II

(.000010 MIN THICK) OVER NICKEL PLATE PER QQ-N-290 (.000050 THICK).

SPECIMEN #3 & #4

P/C CONNECTOR WITH SEMI-BELLOWS CONTACTS. CONNECTOR SIZE; 50 POSITION/
100 CONTACTS. CONTACT PLATING; GOLD PLATED PER MIL-G-45204, TYPE II
CLASS O, (.000030 MIN THICK) OVER NICKEL PLATE PER QQ-N-290
(.000050 THICK).

SPECIMEN #5 & #6

P/C CONNECTOR WITH SEMI-BELLOWS CONTACTS. CONNECTOR SIZE; 50 POSITION/ 100 CONTACTS. CONTACT PLATING; GOLD PLATED PER MIL-G-45204, TYPE II, CLASS I (.000050 MIN THICK) OVER NICKEL PLATE PER QQ-N-290 (.000050 THICK).

P/C TEST BOARDS 4.

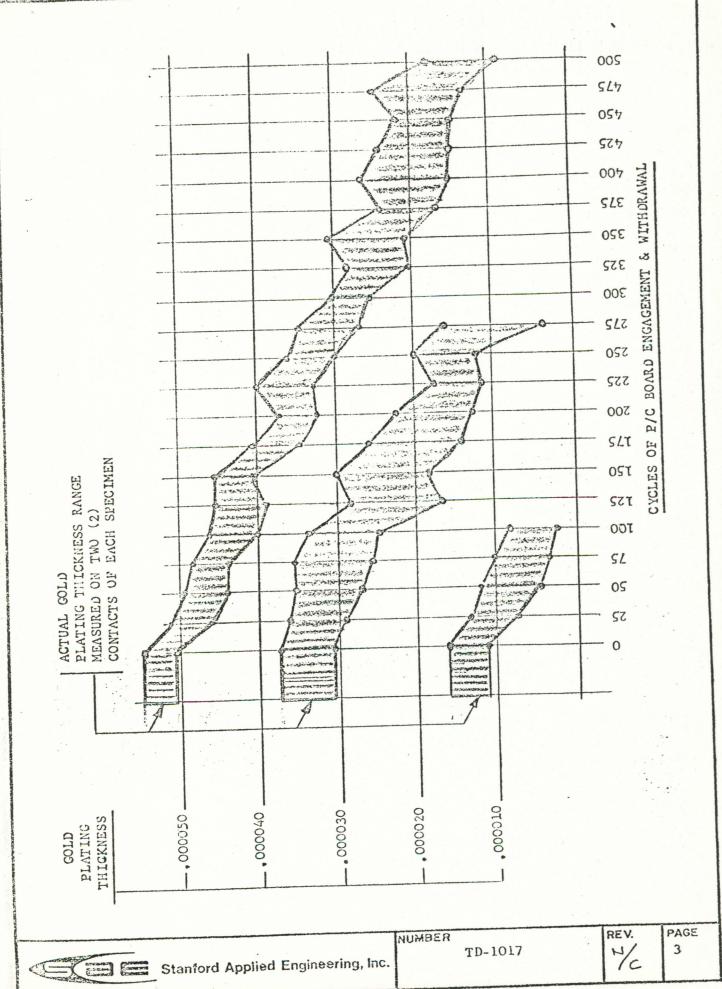
.062 THICK MULTI-LAYER LAMINATED BOARD WITH .015 x 45° LEAD-IN CHAMFERS AND GOLD PLATED CONTACT FINGERS (MIL-G-45204, TYPE II, CLASS I, .000050 THICK OVER ONE (1) OZ. COPPER PLATING.

TEST EQUIPMENT 5.

MICRO-DERM MODEL #4, CALIBRATED 4/2/75

TEST RESULTS 6.

SEE PAGES 2 THRU 6



SPECIMEN #1 & #2

CONTACTS GOLD PLATED PER MIL-G-45204, TYPE II,

(.000010 MIN THICK) OVER NICKEL PLATE PER

QQ-N-290 (.000050 THICK)

NUMBER OF CYCLES INSERTION & WITHDRAWAL	GOLD PLATING THICKNESS MEASURED (AVERAGE)	GOLD PLATING THICKNESS RANGE (MEASURED ON 4 CONTACTS					
0	.000013	.000011		.000016			
25	.000010	.000008	-	.000012			
50	.000008	.000005	-	.000011			
75	.000007	.000004	-	.000010			
100	.000006	.000003	-	.000008			

(EEE

Stanford Applied Engineering, Inc.

NUMBER .

TD-1017

REV.

PAGE 4

SPECIMEN #3 & #4

CONTACTS GOLD PLATED PER MIL-G-45204, TYPE II, CLASS O, (.000030 MIN THICK) OVER NICKEL PLATE PER QQ-N-290 (.000050 THICK)

NUMBER OF CYCLES INSERTION & WITHDRAWAL	GOLD PLATING THICKNESS MEASURED (AVERAGE)	COLD PL THICKNES (MEASURED ON	
0	.000034	.000031 -	.000037
25	.000032	.000029	.000036
50	.000031	.000027	.000035
75	.000031	.000026	.000036
100	.000028	.000024	.000032
125	.000022	.000016	.000028
150	.000024	.000018	.000030
175	.000019	.000013	.000025
200	.000017	.000012	.000022
225	.000014	.000011	000017
250	.000016	.000012	000020
275	.000009	.000003	000015

CONTRACTOR OF THE PARTY OF THE

SPECIMEN #5 & #6

CONTACTS COLD PLATED PER MIL-G-45204, TYPE II, CLASS I (.000050 MIN THICK) OVER NICKEL PLATE PER QQ-N-290 (.000050 THICK)

NUMBER OF CYCLES INSERTION & WITHDRAWAL	GOLD PLATING THICKNESS MEASURED (AVERAGE)	GOLD PLATING THICKNESS RANGE (MEASURED ON 4 CONTACTS)	
0	.000052	.000050000054	
25	.000048	.000046000051	
50	.000046	.000043000049	
75	.000045	.000043000047	
100	.000043	.000040000046	
125	.000042	.000039 .000045	
150	.000043	.000041000045	
175	.000037	.000034000040	
200	.000034	.000032000036	
225	.000036	.000032000040	
250	.000032	.000030000034	
275	.000030	.000027000033	
300	.000028	.000026000030	
325	.000024	.000020000028	
350	.000026	.000021000031	
375	.000020	.000017000023	
400	.000022	.000016000028	
425	.000019	.000016000022	
450	.000018	.000015000021	
475	.000019	.000013000025	
500	.000012	.000008000016	





Stanford Applied Engineering

Advanced Packaging Division

TITLE		AMORE DE TRACTO	- CONTRACTOR OF THE PARTY OF TH			and the state of t		STATE OF THE PARTY	a necessaries was			NUMB	ER			and the second s
,,,,,,				SIGN V				Т					TD-	1006		
			MEC	HANIC	AL TE	ESTS		TOR C				PROJ	ECT			
			700	O SER	LES	P/C C	ONNEC	1003					"700	O SER	RIES"	
APPLIC	ABLE	DOCU	MENT	S		REV.	DAT	E	REV.	DA	TE	CODE	IDEN	T. NO.		
												3	315	14		
MIL	-C-2	1097C				A	7/17	115		-		ТОТА	L PAG	ES		
						_							10			
			na programa de la compansión de la compa					mada baran and a salar and a salar				_	AND DESCRIPTION OF THE PERSONS ASSESSMENT OF			Najietella sinteriori
The second secon				TABL	E 0	F CC	NTE	ETV.	AND	REV	ISION	STA	TUS			
PAGE	Cove	1	2	3	4	5	6	7	8	9	10					
REV.	A	A	Ä	Ä	Ä	A	A	A	A	A	A					
PAGE				T		T										
REV.																
PAGE																
REV.																
			-	NITI	AL	AP	PRO	VAL	S							, and the
PREPA	RED				DA	TE		A	PROVI		~ ~ ~ ~			DATE	/	
MIKE	E KRA	USER,	ENG.			July 1	17, 19	75	4	5.1	hall	w		7/	18/7	5
CHEC	KED				DA	TE		91	PROVE	ED				DATE		
1.	2.6	ndre	va.			7-18	-75									

- 1.0 TITLE: DESIGN VERIFICATION TEST PROCEDURE AND REPORT, MECHANICAL TEST 7000 SERIES P/C CONNECTOR.
- 2.0 SAMPLE PREPARATION: FOUR SAMPLE CONNECTORS WERE WITHDRAWN FROM STOCK:

SAMPLE NO. 1A PART NO. MPH7000-72

11 18 11

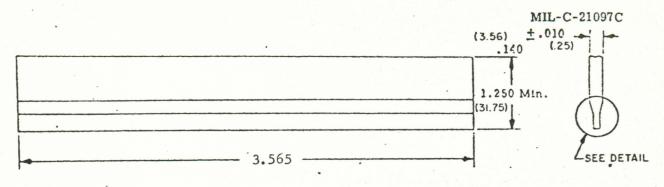
2A 11

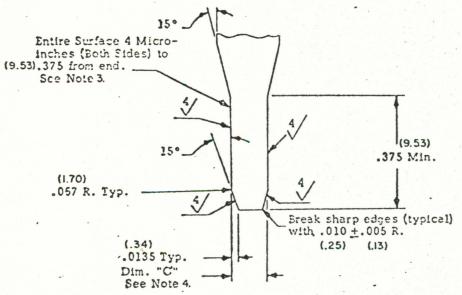
SAMPLE NO. 2B PART NO. MPH7000-72

- 3.0 TEST PROCEDURE: THE FOLLOWING TESTS WERE PERFORMED IN SEQUENCE AS SHOWN:
- 3.1 Test blades used (see Fig.1) were attached to a "Chatillon" gauge which was mounted on a press (see Fig. 2).
- 3.2 The forces to insert and withdraw the test blade's were required.
- 3.3 Individual contact pair withdrawal forces were obtained by using a weight attached to a test blade (see Fig.3).
- 3.4 Contact pairs were selected at random:

a)	TEST NO.		TOTAL	INSERTION	FORCE	.054	BLADE	(Fig. 1)
		2	"	11	11 .	.070	95	11
	11	3	11	WITHDRAWAL	11	.054	11	11
		4	11	11	11	.062	tt.	-11
	, 11	2	ii .	11	11	.070	11	11
	11	6	INDIVIDUAL	INSERTION	FORCE	.054	11	(Fig. 3)
	11	8	II II	11	11	.062	11	11
	11	0	11	н .	11	.070	"	11
		10	11	WITHDRAWAL	11	.054	**	11
	11	11	11	11	11	.062	. 11	11
	11	12	11	11	11	.070	"	

- b) After test numbers 1 thru 12 were completed samples were subjected to fifty cycles of durability using an .070 blade.
- c) After durability cycle test 1 thru 12 were repeated.
- 4.0 TEST RESULTS:





Detail

TEST NO.	DIM C
1 & 4	•054
2 & 5	.062
3 & 6	.070

F16.1

NOTES:

1. Dimensions are in inches.

2. Unless otherwise specified, tolerance is ±.005 (.13 mm) for three place decimals.

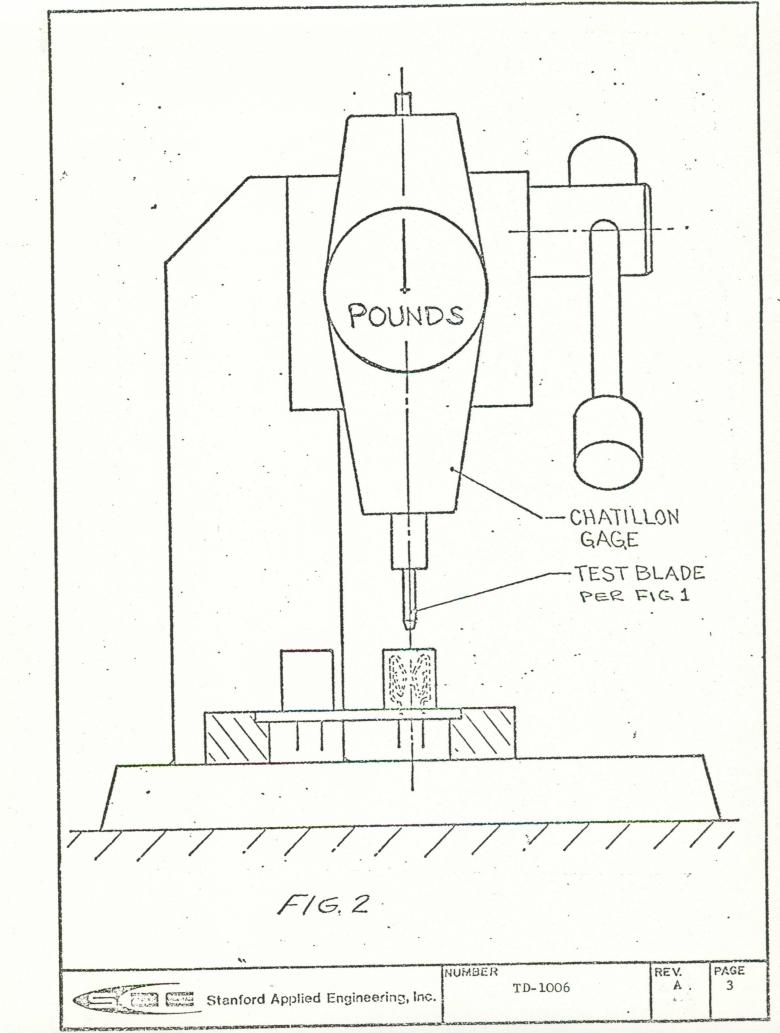
Only the working surfaces designated 4 shall be finished.
 .002 (.05 mm) TIR warpage permitted for full length of dimension A.

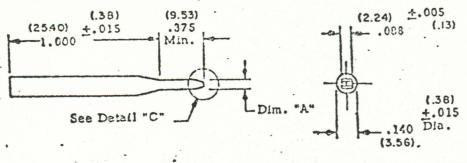
5. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.

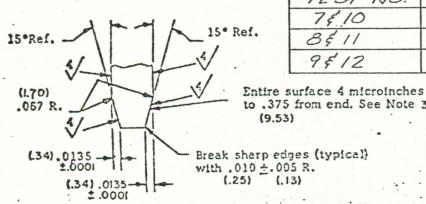
6. Millimeters are in parentheses.

7. For .156 (3.96 mm) size for other sizes see 3.1.)

	NUMBER	REV.	PAGE
Stanford Applied Engineering, Inc.	TD-1006	A	2







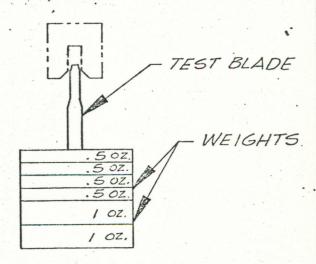
TEST NO.	DIM A
75.10	.054
8 \$ 11	.062
9512	.070

to .375 from end. See Note 3. (9.53)Break sharp edges (typical)

(.13)

Detail "C"

INCHES	MM
.005	.13
.010	.25
.0135	.34
.015	.38
.057	1.70
.088	2.24
.140	3.56
.375	9.54
1.000	25.40



NOTES:

1. Dimensions are in inches.

2. Unless otherwise specified, tolerance is ±.005 (.13 mm) for three place decimals.

3. Only the working surfaces designated 4 shall be finished.

4. Millimeters are in parentheses.

5. Metric equivalents (to the nearest .01 mm) are given for general information only and are based upon 1 inch = 25.4 mm.

F16.3

6. Rockwell hardness 'C' 50-55.

NUMBER PAGE REV TD-1006 Stanford Applied Engineering, Inc. A 4

	TOTAL	INSEK	PTION	TOTAL WITHDRAWAL FORCE			
SAMPLE NO.	TEST 1 .054	TEST 2 .062	TEST3	TEST 4 .054	TEST5 .062	TEST 6 .070	
1	7.5	10.5	13.5	3.5	6	7.5	
. 2	7.5	10.5	13.5	3.5	6	7,.5	
3	7	10	13 .	3.5	6	7	
4	8	9.5	14	4	6	8	
AVERAGE	7.5	10.1	13.5	3.6	6	7.5	

CONTACT		INDIVIDUAL INSERTION FORCE .054								
PAIRS	SAM OZ.	PLE 1 GRAMS		OLE 2 SAMPLE 3 GRAMS OZ. GRAMS		PLE 3 GRAMS	SAMPLE 4 OZ. GRAMS			
	3	85.0	3.2	90.72	3	85.0	3	85.0		
2	3.5	99.2	3.4	96.39	3.4	96.39	3	85.0		
3	3.5	99.2	3.4	96.39	3.6	102.	2.8	79.38		
4	3.	85.	3.	85.0	3.4	96.39	3.4	96.39		
AVERAGE	3.2	92.1	3.2	92.1	3.3	94.9	3.	86.4		

TEST NO. 8

CONTACT	/	INDIVIDUAL INSERTION FORCE . 062								
PAIRS		PLE I GRAMS	SAMF OZ.	ORAMS	SAM.	PLE 3 GRAMS				
1	5.5	155.9	6	170.1	6.	170.1	5.4	153.0		
2	5.2	147.4	5.2	147.4	6.	170.1	5.8	164.4		
3	5.8	164.4	5.	141.7	5.8	164.4	5.	141.7		
4	5.	141.7	5.	141.7	5.8	164.4	6.	141.7		
AVERAGE	5.3	152.3	5.3	150.2	5.9	167.2	5.5	150.2		

	T. Ill. Marie and Control of the Con	
1-	Constant	CONTRACTOR OF THE PARTY OF THE
The state of the s	Pare series	CHARLES

Stanford Applied Engineering, Inc.

NUMBER TD-1006 REV. PAGE A 5

CONTACT	11	IDIVID	UAL	INSE	RTION	U FORC	E.C	70
PAIRS	SAMA OZ.	DLE 1 GRAMS	1	PLE 2 GRAMS		PLE 3 GRAMS	SAMI OZ.	OLE 4 GRAMS
/	8.6	243.8	9.4	266.4	9.4	266.4	8.6	243.8
2	8.8	249.4	9.2	260.	8.8	249.4	9.0	255.1
3	8.8	249.4	9.0	255.1	9.0	255.1	9.0	255.1
4	9.0	255.1	9.2	260.	8.4	238.1	8.6	243.8
AVERAGE	8.8	249.4	9.2	260.3	8.9	252.2	8.8	249.4

TEST NO. 10

CONTACT	IN	DIVIDE	VAL	WITHDI	PAWL	FORC	E . C	54	
PAIRS	SAM OZ.	PLE 1 GRAMS		ORAMS		ORAMS		CLE 4 GRAMS	
1	1.5	42.5	2	56.7	2	56.7	1.5	42.5	
2	2.5	70.8	2	56.7	2	56.7	2.5	70.8	
3	2.0	56.,7	2	56.7	2	56.7	2	56.7	
4	2.0	56.7	2	56.7	2	56.7	2	56.7	
AVERAGE	2	67.3	2	56.7	2	56.7	2	56.7	

TEST NO. 11

CONTACT	11	IDIVID	UAL	WITHL	DRAW	IL FORG	CE .C	062
PAIRS	SAI OZ.			ORAMS	SAM OZ.	GRAMS	SAMP OZ.	PLE 4 GRAMS
/	3	85.0	3	85.0	3	85.0	3	85.0
2	3	85.0	3	85.0	3	85.0	3	85.0
3	2.5	70,8	3.5	99.2	3.5	99.2	3	85.0
4	3	85.0	3.5	99.2	3	85.0	3	85.0
AVERAGE	2.8	81.4	3.2	92.1	3.1	88.5	3	85.0

·	CONTRACTOR OF CONTRACTOR DESCRIPTIONS CONTRACTOR DESCRIPTIONS OF CONTRACTOR OF CONTRAC	COLUMN CONTRACTOR DE CONTRACTO	PLANTON WARFER
SEA DOWN COMMITTED BY A STATE OF THE SEA OF	NUMBER	REV.	PAGE
Stanford Applied Engineering, Inc.	TD-1006	A	6

1									
CONTACT		INDIVIDUAL WITHDRAWAL FORCE							
PAIRS	SAMA OZ.	PLE 1 GRAMS	SAM.	PLE 2 GRAMS	SAMP OZ.	CLE 3 GRAMS	SAMI- OZ.	GRAMS	
/	5.5	155.9	5	141.75	5.5	155.9	5.5	155.9	
, 2	5.5	155.9	5	141.75	5.5	155.9	5.5	155.9	
3	5.5	155.9	4.5	127.5	5.5	155.9	5.5	155.9	
4	5.5	155.9	5.5	155.9	5.5	155.9	5.5	155.9	
AVERAGE	5.5	155.9	5	141.5	5.5	. 155.9	5.5	155.9	

TD-1006

.

7000 SERIES P/C CONNECTOR

*RESULTS AFTER DURABILITY

	TOTAL	INSER	PTION		WITHDRA	AWAL
SAMPLE NO.	TEST 1 .054	TEST 2 .062	TEST3	TEST 4 .054	TEST5 .062	TEST 6 .070
1	7	10.	11.	3.5	6.	7.5
2	7	9.5	11.	3.5	6.	7
3	7.5	9.5	11.	3.5	5.5	7
4	7.5	9,5	11.5	3.5	5.5	7.5
AVERAGE	7.2	9.6	11.1	3.5	5.7	7.2

TEST NO.7

CONTACT	INDIVIDUAL INSERTION FORCE .054									
PAIRS	SAMPLE 1 OZ. GRAMS		SAMPLE 2 OZ. GRAMS				SAMPLE 4 OZ. GRAMS			
/	3	85.0	2	56.7	2	56.7	1.8	51		
2	2.8	79.3	2	56.7	2	56.7	2.2	62.3		
3	2.8	79.3	2.4	68	1.8	51.	2.0	56.7		
4	2.6	73.7	2.6	73.7	1.8	51.	20	56.7		
AVERAGE	2.8	80.7	2.2	63.7	1.9	53.8	2	56.6		

TEST NO.8

CONTACT	INDIVIDUAL INSERTION FORCE . 062									
PAIRS	SAMPLE I OZ. GRAM		SAMPLE 2 OZ. GRAMS		SAMPLE 3 OZ. GRAMS		SAMPLE 4 OZ, GRAMS			
/	5 5.	141.7	5.4	153.	5.	141.7	5.0	141.7		
2	5.2	147.4	5 •	141.7	5.8	164.4	5.2	147.4		
3	4.8	136.	5.2	147.4	5.8	164.4	5.2	147.4		
4	5.0	141.7	5.6	158.7	6.	170.1	5.8	164.4		
AVERAGE	5.	141.7	5.3	150.2	5.6	160.1	5.3	150.2		

		CARRY THE PROPERTY OF THE PARTY	COMPRESENT
	NUMBER	REV.	PAGE
Stanford Applied Engineering, Inc.	TD-1006	Α	3

*RESULTS AFTER DURABILITY

CONTACT	11	IDIVID	VAL	INSE	RTION	U FORC	E .C	70			
PAIRS	SAMI OZ.	DLE 1 GRAMS		PLE 2 GRAMS	SAMA	GRAMS	SAMI OZ.	ORAMS			
/	8	226.8	9 -	255.1	8.8	249.4	8	226.8			
* 2	7.8	221.1	8.8	249.4	8.6	243.8	8	226.8			
3	8	226.8	8.4	238.1	8	226.8	8.4	238.1			
4	7.6	215.4	8.4	238.1	8	226.8	8.4	238.1			
AVERAGE	7.8	225.5	8.6	245.1	8.3	- 235.9	8.2=	232.4			

TEST NO. 10

		INDIVIDUAL WITHDRAWL FORCE . 054										
CONTACT	11	IDIVIDU	JAL	WITHDI	PAWL	FORC	<i>E</i> . <i>C</i>	054				
PAIRS	SAMPLE 1		SAMPLE 2		SAMPLE 3							
PAIKS	02.	GRAMS	OZ.	GRAMS	OZ.	GRAMS	OZ.	GRAMS				
/ .	1	28.3	2	56.7	1.5	42:5	1	28.3				
2	1.5	42.5	2	56.7	1.5	42.5	1.5	42.5				
3	1.5	42.5	1.5	42.5	1.5	42,5	2.	56.7				
4	1.5	42.5	1.5	. 42.5	1.5	42.5	2.	56.7				
AVERAGE	1.3	28.9	1.7	49.6	1.5	42.5	1.6	46.				

TEST NO. 11

CONTACT	INDIVIDUAL WITHDRAWL FORCE . 062									
PAIRS	SAMPLEI		SAMPLE 2		SAMPLE 3		SAMF	PLE 4		
PAIRS	02.	GRAMS	02.	GRAMS	02.	GRAMS	02.	GRAMS		
/	2 .	56.7	2	56.7	2.5	70.8	2	56.7		
2	2.5	70.8	2	56.7	2.	56.7	2	56.7		
3	2.5	70.8	2	56.7	2.	56.7	2	56.7		
4	2.5	70.8	2.5	70.8	2	56.7	2	56.7		
AVERAGE	2.3	67.2	2.1	60.2	2.1	60.2	2	56.7		

	NUMBER	REV.	PAGE
Stanford Applied Engineering, Inc.	TD-1006	A	9

RESULTS *AFTER DURABILITY

TEST NO.12

CONTACT		INIDIVIDUAL WITHDRAWAL FORCE.									
PAIRS	SAMA OZ.	PLE 1 GRAMS	SAM OZ.	PLE 2 GRAMS	SAMF OZ.	CLE 3 GRAMS	SAMP OZ.	CRAMS			
1	5.	141.7	4.5	127.5	5.5	155.9	5	141.7			
2	5.	141.7	5	141.1	4.5	127.5	5	141.7			
3	5.	141.7	5	141.7	5	141.7	5	141.7			
4	4.5	127.5	5	141.7	5	141.7	5	.141.7			
AVERAGE	4.8	138.1	4.8	138.1	5	141.7	5	141.7			

Stanford Applied Engineering, Inc.

NUMBER

REV. PAGE A 10

TD-1006

1



Stanford Applied Engineering

QUOTATION

AP3940 QUOTE NO .:

> August 18, 1977 DATE:

R.F.Q. NO .:

1/2% - 10 NET 30 TERMS:

F.O.B. POINT OF SHIPMENT Out of State - Specify Carrier

QUOTE VALID FOR 30 DAYS

Mattel, Inc. Toy Division 5150 Rosecrans Hawthorne, California 90250

Attn: Dr. Chandler

-	340	Martin	Ave.,	Santa	Clara,	CA 95	050, Tel	: (408	1 243	-920	U	
-	111	Northead	stern	Blvd.,	Nashua	, New	Hampsh	ire 03	060,	Tel:	(603)	889-286

- 2500 Maryland Dr., Willow Grove, PA 19090, Tel: (215) 657-4810
- 17900 Sky Park Circle, Suite #205, Irvine, CA 92714, Tel: (714) 751-9162
- 4840 North 63rd St., Boulder, CO 80301, Tel: (303) 449-9100

13616 Gamma Rd., Suite #102, Dallas, TX 75240, Tel: (214) 661-9112

7701 Normandale Rd., Suite #108, Minneapolis, MN 55435, Tel: (612) 835-2179

XX3080 Airway Dr., Costa Mesa, CA 92626, Tel: (714) 540-9256

48 Cabot St., West Babylon, NY 11704, Tel: (516) 420-8111

1750 N. Kimball Ave., Chicago, IL 60647, Tel: (312) 235-5030

ITEM	QTY	DESCRIPTION	UNIT PRICE
1.	100,000	CPH7000-44TV-R23 P/C Connector	\$1.22
	200,000		1.16
	100	NOTE: Deduct 10¢/each for tin plating	
		Quoted with thru-hole mounting; not tapped insert	
		Enclosure: Sample (1)	

Thank you for this opportunity to quote on your requirements. (When placing an order, please refer to the quotation number above.) If we can be of further assistance, please let us hear from you.

Very truly yours,

A. R. Moyer, General Manager STANFORD APPLIED ENGINEERING, INC.

CUSTOMER COPY